

IT wherein the first, second and third electrodes transmit ablation energy to the indifferent electrode.

REMARKS

I. PRELIMINARY REMARKS

Claims 13, 28, 32 and 33 have been amended. No claims have been added or canceled. Claims 13, 16, 17, 19, 20, 28, 30, 32, 33, 35, 36 and 38-46 remain in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

II. BRIEF DESCRIPTION OF THE ILLUSTRATED EMBODIMENTS

The present invention, as defined by the claims, is directed generally to a system for ablating tissue. As shown by way of example in FIGS. 59 and 60, a system 298 in accordance with one embodiment of the invention includes a controller 300 and a probe 180 that may be inserted into the body. The probe includes an ablation element 176(1) which, in the exemplary embodiment, consists of a plurality of conductive regions E1 to E7 that form an energy emitting region 192.

The exemplary controller 300 can be used to selectively switch the operation of the electrodes between unipolar and bipolar ablation modes. The controller 300 also includes **an input panel 302** and **a plurality of manually operable switches T1 to T7** that can be used to selectively block transmission to some or all of the respective conductive regions E1 to E7 to selectively form a variety of lesion patterns and lengths. [See the specification from, for example, page 53, line 31 to page 58, line 17 and FIGS. 59-66.] Some of these lesion patterns are formed when two conductive regions are separated by a non-conductive region. [See FIGS. 33-35.]

III. REJECTIONS UNDER 35 U.S.C. § 112

A. Rejection Under 35 U.S.C. § 112, First Paragraph

Claims 13, 16, 17, 19 and 20 have been rejected under 35 U.S.C. § 112, first paragraph, as purportedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time the application was filed, has possession of the invention. More specifically, the Office Action states that there is no support for “altering the length from a first non-zero length to a second non-zero length” and “an interface and a separate control device.” The rejection under 35 U.S.C. § 112, first paragraph, is respectfully traversed. Reconsideration thereof is respectfully requested.

Turning to the first issue raised by the rejection, the specification provides clear support for the “control means for varying the length of the region where transmission is allowed between a first non-zero length and a second non-zero length in response to the second input command” aspect of the combination defined by claim 13. For example, as described in the specification at page 59, lines 4-7, “[w]ith toggle T_M in Position A and all toggles $T_{E1 \text{ to } E7}$ in their positions A, a continuous, unipolar lesion pattern results ... like that shown in Figs. 31 and 32.” The specification also states that “the physician can select to electronically interrupt the flow of RF energy to one or more regions E1 to E7” and that “an interrupted, unipolar lesion pattern results (like that shown in FIGS. 34 and 35).” [Page 59, lines 8-19.] Clearly, the most cursory review of Figures 31, 32, 34 and 35 and the above-quoted portions of the specification would have led a skilled artisan to understand that a lesion produced by all of the regions E1 to E7 will be one non-zero length, while a lesion produced by fewer than all of the regions will be another non-zero length (i.e. smaller).

The Office Action also cites MPEP § 2173.05(i) in support of this rejection. Applicant respectfully notes that this section of the MPEP concerns the “negative limitation” issue that arises under 35 U.S.C. § 112, second paragraph. MPEP § 2163.02, which is directed to the written description requirement, states that “[t]he

subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement." Claim 13, as originally filed, called for "varying the length of the region where emission is either blocked or allowed." The additional descriptive language referring to two different non-zero lengths serves only to distinguish the claimed invention from devices that merely either produce a lesion of one predetermined length or produce no lesion at all. Applicant respectfully submits that this is *not* "a departure from, addition to, or deletion from the disclosure of the application as filed." [MPEP § 2163.02.]

Accordingly, with respect to the first issue raised by the rejection, applicant respectfully submits that the rejection under 35 U.S.C. § 112, first paragraph, should be withdrawn.

Turning to the second issue, independent claims 28 and 33 have been amended to recite that the operator interface is one portion of the overall "controller" (or "control device"). Applicant notes that such amendments are not intended to limit the claimed invention. Rather, such amendments are being made solely in response to the Examiner's rejection under 35 U.S.C. § 112.

B. Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 13, 16, 17, 19, 20, 28, 30, 32, 33, 35, 36 and 38-46 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant respectfully submits that the rejection under 35 U.S.C. § 112 has been obviated by the amendments above. Applicant notes that such amendments are not intended to limit the claimed invention. Rather, such amendments are being made solely in response to the Examiner's rejection under 35 U.S.C. § 112.

IV. PRIOR ART REJECTIONS

A. The Rejections

Claims 13, 16, 19 and 20 have been rejected under 35 U.S.C. § 102 as being anticipated by the Eggers '443 patent. Claim 17 has been rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of the Eggers '443 and Avitall '297 patents. Claims 28, 30, 32, 33, 35, 36, 38, 39 and 41-46 have been rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of the Eggers '443 and Desai '198 patents. Claim 40 has been rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of the Eggers '443, Desai '198 and Fogarty '769 patents. The rejections under 35 U.S.C. §§ 102 and 103 are respectfully traversed with respect to the claims as amended above. Reconsideration thereof is respectfully requested.

B. Discussion

The Eggers patent is directed to a system that may be used to selectively heat stenotic material within a blood vessel while limiting the amount of heat applied to blood and the blood vessel wall. [Column 4, lines 49-54.] The system includes a catheter 10 with an array of isolated electrodes 18 disposed on the catheter tip 12. The electrodes 18 are connected to a power source 32 that includes an operator interface with a voltage control knob 34, a temperature control knob 36, and what appears to be a single on-off switch that enables/disables power to all of the electrodes. The catheter tip 12 is provided with temperature sensors 48. The temperature sensors 48 are not specifically associated any particular electrodes 18. Rather, a few temperature sensors 48 are packed in with mass of electrodes 18. [Note Figure 3.]

The Eggers power source 32 does not block transmission from (or disconnect power to) some of the electrodes during an ablation procedure in response to a command input into the operator interface. Rather, the power source 32 either (1) ***automatically***

blocks power to some of the electrodes 18 when those electrodes are transmitting power through a relatively low resistance path (column 3, lines 18-28 and column 6, line 57 to column 7, line 17) or (2) **automatically** controls the "voltage, current, duty cycle, or the like" when the sensed temperature is greater than the temperature set with control knob 36 (column 7, lines 58-68).

With respect to the first automatic function of the Eggers power source 32, even assuming *arguendo* that the Eggers power source 32 includes an internal controller whose internal operations includes various pre-programmed commands, power to some of the electrodes simply is not blocked based on commands input via an operator interface.

With respect to the second automatic function of the Eggers power source 32, the Office Action asserts that a command input via the temperature control knob 36 "will cause the interruption of power to some of the electrodes and not others." [Office Action at page 4.] ***There is no support whatsoever in the Eggers patent for this assertion.*** The Eggers patent clearly states that when the temperature measured at the tip 12 exceeds the temperature input with the control knob 36, the power supply 32 will automatically control the "voltage, current, duty cycle, or the like." Nothing in the Eggers patent even remotely suggests that power will be cut off to some of the electrodes and not others. Moreover, given the fact that the temperature sensors are not even associated with particular electrodes, there is no way for the power source 32 to even determine which electrodes should be individually controlled.

Applicant also respectfully submits that power is not controlled in response to an input command. The Eggers control knob 36 is merely used to set a predetermined maximum temperature. Power is ultimately controlled **automatically** should the sensed temperature reach the preset temperature.

The Avitall, Desai and Fogarty, which have been cited for their purported teachings of electrode structures, computer controlled switches, and other electrode structures, fail to remedy the above identified deficiencies in the Eggers patent.

C. Conclusions

As the Eggers patent fails to teach or suggest each and every element of the inventions defined by independent claim 13, applicant respectfully submits that the rejection of claims 13, 16, 19 and 20 under 35 U.S.C. § 102 should be withdrawn.

As the combined teachings of the Eggers and Avitall patents fail to teach or suggest the combination defined by claim 17, applicant respectfully submits that claim 17 is patentable thereover and that the rejection under 35 U.S.C. § 103 should be withdrawn.

As the combined teachings of the Eggers and Desai patents fail to teach or suggest the respective combinations defined by independent claims 28 and 33, applicant respectfully submits that claims 28, 30, 32, 33, 35, 36, 38, 39 and 41-46 are patentable thereover and that the rejection under 35 U.S.C. § 103 should be withdrawn.

As the combined teachings of the Eggers, Desai and Fogarty patents fail to teach or suggest the combination defined by independent claim 33, applicant respectfully submits that claim 40 is patentable thereover and that the rejection under 35 U.S.C. § 103 should be withdrawn.

V. CLOSING REMARKS

In view of the foregoing, it is respectfully submitted that the claims in the application patentably distinguish over the cited and applied references and are in condition for allowance. Reexamination and reconsideration of the application, as amended, are respectfully requested. Allowance of the claims at an early date is courteously solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is respectfully requested to call Applicant's undersigned representative at (310) 563-1458 to discuss the steps necessary for placing the application in condition for allowance.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 50-0638. Should such

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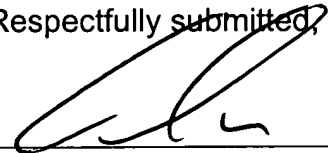
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fees be associated with an extension of time, applicant respectfully requests that this paper be considered a petition therefor.

1/30/01
Date

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Respectfully submitted,



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